



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,901	10/16/2003	Stephen Felix Sagan	XP-1142	8586

21013 7590 06/28/2005

AGFA CORPORATION
LAW & PATENT DEPARTMENT
200 BALLARDVALE STREET
WILMINGTON, MA 01887

EXAMINER

PHAM, HAI CHI

ART UNIT PAPER NUMBER

2861

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/686,901	Applicant(s) SAGAN ET AL.	
	Examiner Hai C. Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/16/03, 03/07/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16-17, 21-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda (U.S. 5,257,125).

Maeda discloses a laser scanning system comprising a laser source subsystem (laser source 12) that generates an exposure beam (14), a beam shaping subsystem (focus error correction system 18) that shapes the exposure beam and includes at least one optical element stage for changing distances between optical elements in the beam shaping subsystem and/or relative to the laser source subsystem to control the shaping of the exposure beam to compensate for changes in a wavelength, shape and/or divergence angle of the exposure beam from the laser source subsystem (the system 18 including a mechanized adjusting mechanism, not shown, for adjusting the position of either one of the lenses 50 and 52) (the system 18 corrects an error in focusing of the light beam scanning on the surface to be scanned, the error being caused by the collimator lens 16, which diverges of the light beam) (col. 1, lines 28-38 and col. 3, lines 41-51), and a scanning subsystem (f-theta lens 29) that scans the exposure beam over printing media (32).

Maeda further teaches:

Art Unit: 2861

- the laser source subsystem comprises a diode laser (12) and a source lens (collimator lens 16),
- the beam shaping subsystem comprises a singlet lens (lens 52') and a doublet lens (lens 50') (Fig. 4) to improve a collimation of the exposure beam (e.g., to correct the divergence tendency of the collimator lens 16),
- the beam shaping subsystem includes a singlet lens stage (not shown) for adjusting a position of the singlet lens in a direction of an optical axis (the position of the lens 52 being adjusted along the optical axis) (Figs. 2-3) (col. 3, lines 25-40),
- the beam shaping subsystem further comprises a cylindrical lens (20) for focusing the exposure beam along one axis,
- a cylindrical lens stage (not shown) for adjusting a position of the cylindrical lens (20) in a direction of an optical axis (Figs. 2-3) (col. 4, lines 17-26),
- the cylindrical lens for focusing the exposure beam along one axis (the cylindrical lens 20 converging the laser beam in the cross-scan plane) (col. 3, lines 3-6).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Ang (U.S. 6,104,523).

Maeda discloses all the basic limitations of the claimed invention except for the source lens being aspheric.

Ang discloses a raster output scanner comprising a laser source (12, 14), an aspherical collimator lens (22), a beam shaping optics including two lenses (28 and 30) movable along the direction of the optical axis for optimizing the focus correction of the laser beams, a polygon mirror (38), and imaging lens assembly (44).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the collimator lens as an aspherical lens in the device of Maeda as taught by Ang. The motivation for doing so would have been to improve the collimating function of the lens.

5. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Kawamura (U.S. 6,496,293).

Maeda discloses all the basic limitations of the claimed invention except for the laser source being a short wavelength diode laser.

Kawamura discloses an optical scanning device employing a short wavelength laser diode with a wavelength less than 400 nm for reducing the diameter of the beam spot while allowing a desired focusing depth.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a short wavelength laser source to the device

Art Unit: 2861

of Maeda as taught by Kawamura. The motivation for doing so would have been to reduce the diameter of the beam spot as suggested by Kawamura.

6. Claims 1-2, 6-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Au Yeung et al. (EP 0919846).

Maeda discloses all the basic limitations of the claimed invention (please refer to the related rejection in the above paragraph 2) except for the laser source being a field-replaceable laser source.

Au Yeung et al., an acknowledge prior art, discloses a raster output scanner comprising a field-replaceable laser source subsystem (Fig. 3), which can be replaced and adjusted automatically in the field without the need to transfer the expensive parts back to the manufacturer for replacement.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a field-replaceable laser source subsystem to the device of Maeda as taught by Au Yeung et al. The motivation for doing so would have been to obtain the advantage and convenience of a quick replaceable and adjustable subsystem as suggested by Au Yeung et al.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Au Yeung et al., as applied to claim 1 above, and further in view of Ang.

Maeda, as modified by Au Yeung et al., discloses all the basic limitations of the claimed invention except for the source lens being aspheric.

Ang discloses a raster output scanner comprising a laser source (12, 14), an aspherical collimator lens (22), a beam shaping optics including two lenses (28 and 30) movable along the direction of the optical axis for optimizing the focus correction of the laser beams, a polygon mirror (38), and imaging lens assembly (44).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the collimator lens as an aspherical lens in the device of Maeda as taught by Ang. The motivation for doing so would have been to improve the collimating function of the lens.

8. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Au Yeung et al., as applied to claim 1 above, and further in view of Kawamura.

Maeda, as modified by Au Yeung et al., discloses all the basic limitations of the claimed invention except for the laser source being a short wavelength diode laser.

Kawamura discloses an optical scanning device employing a short wavelength laser diode with a wavelength less than 400 nm for reducing the diameter of the beam spot while allowing a desired focusing depth.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a short wavelength laser source to the device of Maeda as taught by Kawamura. The motivation for doing so would have been to reduce the diameter of the beam spot as suggested by Kawamura.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER
June 25, 2005